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Rejections

A. 35 U. S. C. § 103

1. Claims 1-3, 5, 7-9, 11-17 and 19 obvious over Landin et al. in view of McCormack and Fujii et al.

Claims 1-3, 5, 7-9, 11-17 and 19 are rejected under 35 U. S. C. § 103(a) as being obvious over Landin et al. (Re. U.S. Patent No. Re 36, 806 reissued August 1, 2000) in view of McCormack (U. S. Patent 4,726,007 issued February 16, 1988) and Fujii et al. (Japanese Patent Application JP 08-073676 published March 19, 1996). Applicants submit that these claims are not rendered obvious by the combination of these references.

Claims 1-3, 5, 7-9, 11-17 and 19 are directed to a substrate for use in a data storage system (see, specification, at page 3, lines 19-24). In particular, claim 1 includes the following features:

"A substrate for use in a data storage system, comprising:  
at least one plastic composite material exhibiting a modulus of about 350 kpsi or greater;  
wherein said plastic composite material is filled with viscoelastic damping particles and anisotropic reinforcing agents."

In claim 1, a substrate for use in a data storage disk system is described (see, specification at page 3, lines 19-20). The substrate comprises at least one plastic composite material exhibiting a modulus of about 350 kpsi or greater, wherein the plastic composite material is filled with viscoelastic damping particles and anisotropic reinforcing agents (see, specification at page 4, lines 1-3).

Landin et al. discloses a method for damping a rotatable storage article (see, Landin et al. at column 1, lines 10-12). The rotatable storage article is

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damped with one or more internal damping layers (see, Landin et al. at column 5, lines 2-3). The one or more internal damping layers are positioned between the structural material of the rotatable storage article (see, Landin et al. at column 5, lines 4-10). The one or more internal damping layers are constructed of a viscoelastic rubber, a thermoplastic material, or a thermosetting resin (see, Landin et al. at column 6, line 42 to column 7, line 17). Fibrous or particulate material may be added to the damping material to further improve the damping properties thereof (see, Landin et al. at column 7, lines 23-48).

Landin et al. does not describe or suggest a data storage system including a substrate comprising at least one plastic composite material exhibiting a modulus of about 350 kpsi or greater, wherein the plastic composite material is filled with viscoelastic damping particles and anisotropic reinforcing agents. Rather, Landin et al. only teaches a damping layer comprising a non-rigid viscoelastic rubber or resin matrix, into which fibrous or particulate material may be added to improve damping further. In other words, Landin et al. does not teach filling a rigid plastic composite material with viscoelastic particles and anisotropic reinforcing agents, but rather teaches opposite this with the use of a non-rigid viscoelastic layer that includes fibrous or particulate material for improved damping. Thus, claims 1-3, 5, 7-9, 11-17 and 19, are patentable over Landin et al.

McCormack et al. discloses a damper system for use with compact (CD) disks (see, McCormack et al. at column 1, lines 7-10). The damper system includes a CD damper disc 24 laid on top of a CD disc 20 (see, McCormack et al. at FIG. 1 and column 4, lines 39-47). The CD damper disc 24 comprises a circular disc made of either carbon fiber reinforced epoxy plastic or polytetrafluoroethylene (TEFLON) (see, McCormack et al. at column 5, lines 24-44).

McCormack et al. does not describe or suggest a data storage system including a substrate comprising at least one plastic composite material exhibiting a modulus of about 350 kpsi or greater, wherein the plastic composite

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material is filled with viscoelastic damping particles and anisotropic reinforcing agents. Rather, McCormack et al. only teaches a CD damping disc made of either carbon fiber reinforced epoxy plastic or polytetrafluoroethylene (TEFLON). Thus, claims 1-3, 5, 7-9, 11-17 and 19, are patentable over McCormack et al.

Fujii discloses a vibration damping material (see, Fujii, in Abstract, line 1). The vibration damping material comprises a base resin, a styrene-isoprene-styrene block co-polymer resin and iron oxide particles (see, Fujii, in Abstract, lines 7-11). The base resin may be either of a polypropylene resin, a polystyrene resin, an acrylonitrile-butadiene-styrene copolymer resin, a polycarbonate resin a polyphenylene ether resin and a modified polyphenylene ether resin (see, Fujii, in Abstract, lines 3-5).

Fujii does not describe or suggest a data storage system including a substrate comprising at least one plastic composite material exhibiting a modulus of about 350 kpsi or greater, wherein the plastic composite material is filled with viscoelastic damping particles and anisotropic reinforcing agents. Rather, Fujii only teaches a vibration damping material comprising a base resin, a styrene-isoprene-styrene block co-polymer resin and iron oxide particles. Thus, claims 1-3, 5, 7-9, 11-17 and 19, are patentable over Fujii.

Since Landin et al. only teaches the use of damping layers that are constructed of a non-rigid viscoelastic rubber or resin that may be filled with fibrous or particulate material, McCormack et al. only teaches a CD damping disc made of either carbon fiber reinforced epoxy plastic or polytetrafluoroethylene (TEFLON) and Fujii only teaches a vibration damping material comprising a base resin, a styrene-isoprene-styrene block co-polymer resin and iron oxide particles, the combination of these references does not describe or suggest the invention recited in claims 1-3, 5, 7-9, 11-17 and 19. In particular, the invention in claims 1-3, 5, 7-9, 11-17 and 19, recites a data storage system including a substrate comprising at least one plastic composite material exhibiting a modulus of about 350 kpsi or greater, wherein the plastic composite material is filled with

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viscoelastic damping particles and anisotropic reinforcing agents. Thus, claims 1-3, 5, 7-9, 11-17 and 19, are patentable over the combination of these references.

Conclusion

Thus, the applicants submit that none of the claims, presently in the application, are obvious under the provisions of 35 U. S. C. § 103. Consequently, the applicants believe that all of these claims are presently in condition for allowance. Accordingly, the applicants earnestly solicit reconsideration of this application and its swift passage to issue.

If, however, the Examiner believes that any unresolved issues still exist in any of these claims that require a continuance of the adverse first action therefor, it is requested that the Examiner telephone Mr. James Sheridan, at (650) 320-0000, so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

9/9/02

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